



RecyclingWorks C&D BMPs



Construction & Demolition Materials Best Management Practices MassDEP SWAC Meeting - February 2, 2017





RecyclingWorks in Massachusetts



- Free Assistance for businesses and institutions
 - Comply with MassDEP waste bans
 - Maximize waste diversion
 - Save money
 - Improve customer/employee satisfaction
- Funded by MassDEP, delivered under contract by the Center for EcoTechnology

The screenshot shows the RecyclingWorks Massachusetts website. At the top, there is a green header bar with the email 'info@recyclingworksma.com' on the left and 'CALL OUR HOTLINE: (888) 254-5525' on the right. Below the header is a navigation menu with links: ABOUT US, RECYCLE, PROGRAMS, FOOD WASTE, REUSE, and BLOG/EVENTS. The main content area features a large background image of recycling bins labeled 'COMPOST', 'RECYCLE', and 'TRASH'. Overlaid on this image is the title 'Recycling Assistance for Businesses & Institutions'. Below the title is a search form with three dropdown menus: 'Pick Up/Drop Off?', 'Location', and 'Choose a Material', followed by a green 'SEARCH' button. Below the search form is a text input field with the placeholder 'Type in a material or the name of a business, e.g. food waste; Bob's Trucking'. Underneath the input field is a paragraph: 'RecyclingWorks in Massachusetts is a recycling assistance program that helps businesses and institutions maximize recycling, reuse, and food waste diversion opportunities.' Below this paragraph are two green buttons: 'LIST YOUR BUSINESS' and 'MORE INFO ABOUT RECYCLINGWORKS'. At the bottom of the page, there is a green bar with the text 'GET HELP FROM A RECYCLINGWORKS RECYCLING EXPERT' and a brown button that says 'Call our hotline or email us a question. Click here for more information'.



RecyclingWorks in MA Services



- Online Resource
- Email and Phone Hotline
- Technical Assistance
- Events and Workshops
- C&U Program Administration





BMP Stakeholder Process



- Similar approach to
 - 2013 food waste collection BMP
 - 2015 food donation BMP
- Engage stakeholders – Contractors, Haulers, C&D Processors, Architects, Reuse Outlets, Building Inspectors
- Objective is to increase reuse and recycling of C&D materials

The screenshot displays the RecyclingWorks Massachusetts website. The header includes the contact email 'info@recyclingworksma.com' and a hotline number '(888) 254-5525'. The navigation menu lists 'ABOUT US', 'RECYCLE', 'PROGRAMS', 'FOOD WASTE', 'REUSE', and 'BLOG/EVENTS'. The main heading is 'FOOD DONATION GUIDANCE'. The content area includes text about the program's collaboration with state and local health officials, food rescue organizations, and food banks. It also features the EPA's Food Recovery Hierarchy diagram, which is a pyramid with five levels: 1. Source Reduction, 2. Food Recovery Programs, 3. Food Recovery, 4. Composting, and 5. Landfill. Below the diagram, there are four steps to follow for a successful food donation program. On the right side, there is a 'Find A Recycler' section with a search bar and a 'Find A Recycler' button. Below that, there is an 'Upcoming Events' section listing several events, including the EBCNE Annual C&D Summit, MassDEP SWAC Meeting, and MassRecycle 2017 R3 Conference. At the bottom right, there is a 'We Are Here To Help' section with a brief description of the service.

info@recyclingworksma.com CALL OUR HOTLINE: (888) 254-5525

RECYCLINGWORKS MASSACHUSETTS

ABOUT US RECYCLE PROGRAMS FOOD WASTE REUSE BLOG/EVENTS

FOOD DONATION GUIDANCE

The RecyclingWorks in Massachusetts program has worked with state and local health officials, food rescue organizations, food banks, and organizations with established food donation programs to develop this Food Donation guidance document by holding three stakeholder meetings across the state in Springfield (March 25, 2015), Worcester (April 9, 2015) and Boston (April 29, 2015). The information gained from the meetings was used to create this guidance document.

The US EPA's Food Recovery Hierarchy ranks feeding hungry people near the top of its priorities as a strategy to reduce wasted food. Businesses should consider how each strategy on the EPA Hierarchy can contribute to a comprehensive food waste reduction plan.

This document is intended to provide guidance to organizations interested in establishing Food Donation programs by offering a broad overview of how successful food donation programs should be structured. In order to have a successful food donation program there are four major steps that must be taken:

1. Identify the types and amounts of food to be donated
2. Identify partner organizations in your area with which to work
3. Determine packaging, storage, and labeling requirements to ensure food safety
4. Determine how food will be transported as well as pick-up frequency and quantities

Find A Recycler

Pick Up Location Choose

Type in a material or the name of a business, e.g.

UPDATE

Upcoming Events

January 26, 2017
EBCNE Annual C&D Summit
EBCNE Eleventh Annual Construction and Demolition Materials Management Regional Summit The Environmental...

February 02, 2017
MassDEP SWAC Meeting
MassDEP Solid Waste Advisory Committee (SWAC) Meeting The MassDEP SWAC meets four...

March 27, 2017
MassRecycle 2017 R3 Conference
Save the Date for MassRecycle's 2017 R3 Conference: March 27, 2017 in...

We Are Here To Help

At RecyclingWorks we can help you set up or improve your business recycling program. To



C&D BMP Development



- **Spring – Fall 2016:** 13 stakeholder meetings, 175 participants



- **Winter 2016/2017:** Draft BMPs and collect comments
- **Spring 2017:** Finalize and post BMPs



C&D BMP Draft Outline



- Regulatory Requirements
- Waste Management Plans
- Demolition & Deconstruction
- Materials Reuse
- Recycling





Regulatory Requirements – Waste Bans



Massachusetts Waste Bans (310 CMR 19.017)

- Asphalt pavement, brick & concrete
- Ferrous & non-ferrous metal
- Treated & untreated wood (banned from landfills only)
- Clean gypsum wallboard
- Recyclable paper, cardboard & paperboard



fact sheet

Your Business and the Waste Bans: What You Need to Know

What are waste bans?

"Waste bans" are restrictions on the disposal, transfer for disposal and contracting for disposal of certain hazardous items and recyclable materials at solid waste facilities in Massachusetts.

The waste bans are designed to:

- Conserve capacity at existing disposal facilities.
- Minimize the need for new facility construction.
- Provide recycling markets with large volumes of material on a consistent basis.
- Keep certain toxic substances or materials from adversely affecting our environment when landfilled or combusted.
- Promote business and residential recycling efforts.

What do I need to do? Remove & Recycle!

Business managers should remove and recycle any banned materials they generate or run the risk that waste loads will be rejected at a disposal site, charged an additional handling fee or face potential enforcement penalties. Recycling at businesses can be easier and more economical than recycling at home, because the materials are generated in larger quantities and are easier to keep separate from the rest of the trash. Recycling prevents unnecessary disposal of usable raw materials, saves energy and reduces air and water pollution. Recycling also reduces disposal costs and can save businesses money by diverting materials from the trash dumpster to the recycling bin.

Your waste hauler may be able to help you establish a recycling program. Also, the Massachusetts Materials Trader has an extensive list of companies that collect or process recyclable materials.

What is banned?

Asphalt Pavement, Brick, and Concrete: asphalt pavement, brick and concrete from construction and demolition of buildings, roads, bridges, and similar sources.

Batteries: Lead-acid batteries used in motor vehicles or stationary applications.

Cathode Ray Tubes: Any intact, broken or processed glass tube used to provide the visual display in televisions, computer monitors and certain scientific instruments.

Clean Gypsum Wallboard: A panel (known as drywall) with a gypsum core and faced with a heavy paper or other material on both sides that is not contaminated with paint, wallpaper, joint compound, adhesives, nails, or other substances after manufacture.

Glass Containers: Glass bottles and jars. The ban does not cover light bulbs, Pyrex cookware, plate glass, drinking glasses, windows, windshields and ceramics.

Leaves & Yard Waste: Leaves, grass clippings, weeds, garden materials, shrub trimmings, and brush one-inch or less in diameter (excluding diseased plants).



Regulatory Requirements – Hazardous Materials



- Lead
- Asbestos
- Mercury
- Mass Dept of Labor Standards and MassDEP requirements
- EPA safety documents

Before You Tear it Down, Get the Mercury Out

Recommended Management Practices for Pre-Demolition Removal of Mercury-Containing Devices from Residential Buildings



Mercury can be found in various devices in residential buildings. When a mercury-containing product breaks and the mercury is spilled, the exposed mercury can evaporate and become an invisible, odorless toxic vapor. To prevent mercury releases, these products should be used and stored safely, and managed properly at the end of their useful lives. This fact sheet specifically addresses pre-demolition removal of mercury-containing gas pressure regulators, mercury-containing boiler heating systems, and thermostats. For information on proper removal and management of other mercury-containing products in homes, go to www.epa.gov/osw/hazard/tsd/mercury/con-prod.htm.

Mercury-Containing Gas Pressure Regulators

Issue: Some homes that were built prior to 1968 have a mercury-containing gas pressure regulator adjacent to the gas meter. Most of these devices were manufactured and installed in the 1940s and 1950s, but a few were manufactured and installed in some areas as late as 1967. These devices contain approximately two teaspoons of mercury. Mercury spills have sometimes occurred during improper removal of these devices, causing a potentially significant health risk and resulting in costly cleanups.

Recommended Management: Mercury-containing gas pressure regulators should be removed only by qualified gas company personnel. Local government entities planning to demolish residential buildings (or anyone planning to demolish any building) having gas pressure regulators or other gas equipment should inform the local gas company of their proposed demolition

schedule at least two weeks in advance of demolition. This notice will enable the gas company to ensure that gas service is turned off, protect underground natural gas pipes and infrastructure from damage, prevent gas leaks, and coordinate the proper removal and disposal of any mercury-containing gas pressure regulators prior to demolition.

REMINER: Call 811 before you dig to identify the location of gas lines!



A gas pressure regulator, adjacent to a gas meter, with the location of the mercury cup identified.



World War II-era mercury-containing gas pressure regulator. (Photo courtesy of the American Gas Association.)



Waste Management Plans



- Require waste diversion in bid specifications
 - Set diversion goals
 - Identify materials to target
 - Require contractor to develop a Waste Management Plan
- Waste Management Plan
 - List materials streams and projected quantities
 - Identify outlets/haulers for each stream
- Final BMP to include:
 - Sample Waste Management Plans
 - Sample Bid Specifications for C&D Waste

CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT

PART 1 - GENERAL

1.1 Related Sections (edit as appropriate for consistency)

- A. Section 01031 - Waste Management / Recycling Alternates
- B. Section 01060 - Regulatory Requirements
- C. Section 01094 - Definitions
- D. Section 01300 - Submittals
- E. Section 01600 - Materials and Equipment

1.2 Description of Work

- A. This section describes the requirements for the Contractor and all subcontractors to minimize construction waste and debris and to reuse, salvage, and recycle to the greatest extent feasible.
- B. This section includes a statement of [INSTITUTION]'s Waste Management Goals, requirements for the development of a draft and final Waste Management Plan, a reference to resources to assist in recycling, and steps for Management Plan Implementation.
- C. This section specifies certain wastes that are required to be recycled.
- D. This section specifies obligations for Reporting to the [INSTITUTION] weights of materials recycled and materials not recycled or reused throughout the project.

1.3 Intent and Waste Management Goals

- A. [INSTITUTION]'s waste management goals include increased recycling and conservation of materials. Construction and Demolition Wastes have been identified as a particular target for reuse and recycling, for several reasons:
 - C&D debris typically represents a large volume of material;
 - Many of the waste streams generated during building demolition and construction projects are highly recyclable at reasonable prices;
 - Massachusetts has banned landfill disposal of some C&D debris beginning in 2003, and expects to ban other C&D debris in subsequent years.
- B. [INSTITUTION] has determined that reducing, to the maximum extent practicable, the amount of waste disposed of in this project is a high priority. The Contractor and subcontractors shall take steps to generate the least amount of waste possible by minimizing waste due to error, poor planning, breakage, mishandling, contamination, or other factors.



Demolition and Deconstruction



- Pre-demolition cleanouts
- Demolition
- Deconstruction
 - Soft strip or full deconstruction
 - Can be cost-effective when materials are donated or sold for reuse





Material Reuse – Reuse Outlets



- Non-profit reuse stores in MA
 - Boston Building Resources
 - EcoBuilding Bargains (Springfield)
 - Habitat Humanity ReStores (10 across state)
- Focus on residential materials
- Offer free/inexpensive pick-ups
- Tax deduction for donation





Material Reuse – Other Outlets



- Informal reuse options
 - On-site or in future project
 - Networking sites (eg, Craigslist)
 - Swap shops and free sheds
- Other reuse outlets
 - Architectural salvage stores
 - Wood salvage businesses
 - Material brokers
 - Used furniture stores





Recycling – C&D Processors



- C&D processors and transfer stations in MA
- Processors separate comingled loads, focus on materials like
 - Metal
 - Wood
 - Rigid plastics
- Problem materials
 - Bulky waste (mattresses, couches)
 - Electronics
 - Gypsum wallboard and ceiling tiles





Recycling – Source Separation



- Consider collecting separately to increase overall recycling rate
 - Gypsum wallboard
 - Ceiling tiles
 - Asphalt shingles
 - Asphalt pavement, brick & concrete
 - Carpet & carpet padding
 - Vinyl composite tile (VCT)
 - Vinyl siding
 - Cardboard
 - Polystyrene
 - Plastic film, bulky waste
- Some materials difficult to separate or get damaged in mixed stream
- LEED v4 standards
 - Requires targeting 4 material streams
 - Comingled C&D counts as one stream





Next Steps



- **February:** Distribution of draft BMPs and collect comments
- **March:**
 - Post BMPs to RecyclingWorks website. Will consider “live document” that can be updated over time.
 - Present BMPs at MassDEP C&D Subcommittee Meeting – March 9 in Boston
- **Later in 2017:** Collaborate with associations to share BMPs through presentation, newsletters, and social media

Contact RecyclingWorks with questions or comments:

info@RecyclingWorksMA.com or (888) 254-5525

www.RecyclingWorksMA.com